

Remarks

The Applicants have amended Claim 1 to recite that the laminated film has a specific gravity of 0.2 to 1.2. Support may be found on page 32 at lines 1-2, for example. Also, Claim 1 has been amended to recite that at least another one of the film layers includes the network structure and pores, and the network structure-including film layer contains a liquid-crystalline polymer. The network structure-including film layer now has a thickness of 1% to 90% of the thickness of the laminated film. Support may be found in original Claim 9, which has been cancelled.

Claims 3, 4 and 15-27 have been cancelled. Other minor amendments have been made to a number of the claims such as Claims 5-8 and 10 wherein dependencies have been changed. Other minor changes have been made as well.

Claim 14 has been amended to recite that the thermal expansion coefficient is 3 to 28. Support may be found in Example 4 in Table 3. Claims 28-32 have been amended to change dependencies or make clarifying amendments.

Finally, new Claims 33-36 have been added. New Claim 33 recites that the liquid-crystalline polyester is a polyester copolymer including an aromatic oxycarbonyl unit. Support may be found on page 20 at lines 17-19. Claim 34 recites that the liquid-crystalline polyester is a polyester copolymer including one selected from the group consisting of an aromatic oxycarbonyl unit, an aromatic dioxy unit, an aromatic dicarbonyl unit and an alkylene dioxy unit. Support may be found on page 20 at lines 17-21. Claims 35 and 36 are similar to Claims 33 and 34, respectively, except that they depend from Claim 28.

The Specification stands objected to based on the informality of the absence of appropriate units for density. The Applicants amended the Specification at pages 9 and 23. The

Applicants have amended the Specification to substitute “specific gravity” for “density.” The reason for this is that the Applicants have now reviewed the original Japanese language PCT application and have found a translation error. The translation inadvertently used “density.” However, that was not correct. Instead, the correct term should have been “specific gravity.” The Applicants have now corrected this minor translational error. The Applicants enclose a certified English translation of the relevant portion of that PCT application to demonstrate that the translation was, in fact, in error. The Applicants respectfully request reconsideration and withdrawal of the objection.

Claims 15-27 stand rejected under 35 U.S.C. § 112, second paragraph for allegedly being indefinite. Specifically, the Official Action asserts that the rejected claims are indefinite for failing to specify the density units in Claim 15. Claims 15-27 have been cancelled. Accordingly, the Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. § 112, second paragraph.

Claims 1-6 and 11-14 stand rejected under 35 U.S.C. § 102(b) as anticipated by Nevitt. The rejection alleges that Nevitt discloses a laminated film that comprises a thermoplastic resin layer and a second layer, which includes a network structure. The rejection also alleges that the particle-containing layer is a network layer, with the particles forming a network.

The Applicants respectfully submit that Nevitt discloses something quite different. The particle-containing layer disclosed in Nevitt is not the same as the network layer recited in the rejected claims. The Applicants’ Specification describes a network structure as having a configuration of linear elements that may be of a fibrillar, rod or bead shape and extend in the film layer and are connected to each other to form a network. (See page 18 of the Applicants’ Specification.) Alternatively, the network structure may have a configuration in which

connected pores extend in parallel to a surface of the film in the longitudinal and/or transverse of the film to form a pseudo-network.

The particles in the particle-containing layer disclosed in Nevitt, however, do not form a network or pseudo-network structure. Nevitt states that the particles are preferably spherical and may be completely encased or embedded within the layer or may be partially exposed and project from the layer. Thus, the particle-containing layer is a solid layer containing embedded particles and is neither a network comprised of linear elements nor a pseudo-network of connected pores.

Claim 1 is also different from Nevitt inasmuch as Claim 1 recites the presence of pores and liquid-crystalline polyester. Nevitt does not disclose this. In sharp contrast, the claimed films include pores and a liquid-crystalline polymer that has good cushion properties and a low thermal expansion as indicated on page 17 at lines 18-22, line 24 and Comparative Examples 1-12 with Comparative Examples 13, 14.

Thus, Nevitt does not disclose a porous structure. Nevitt discloses a liquid-crystalline polyester as particles. However, Nevitt discloses many materials besides liquid-crystalline polyester as particles, for example, silica, sodium aluminosilicate, alumina, amorphous polystyrene, glass, styrene acrylonitrile copolymer, talc, cross-linked polystyrene particles or polystyrene copolymers, and alloys of alumina and silica, or combinations of these materials. Nevitt does not disclose, however, how to improve cushion properties and thermal expansion. Thus, including pores in a liquid-crystalline polymer to improve cushion properties and thermal expansion are not disclosed in Nevitt and are not aspects that one skilled in the art could have conceived based on the Nevitt disclosure.

The Applicants respectfully submit that Nevitt does not anticipate the rejected claims because one of skill in the art would not understand from Nevitt that the particle-containing layer is similar to a linear or porous network structure. Also, there are no pores in Nevitt and no liquid-crystalline polyester. In light of its failure to disclose a network structure, pores and liquid-crystalline polyester, the Applicants respectfully submit that Nevitt does not teach each and every element of the rejected claims and requests reconsideration and withdrawal of the § 102(a) rejection over Nevitt.

Claims 7-10 and 15-32 stand rejected under 35 U.S.C. § 103(a) as allegedly obvious over Nevitt in view of Ashcraft. The rejection states that Nevitt does not disclose any limitation on the liquid-crystalline polymer content of the particle-containing layer and relies on Ashcraft for teaching a particle content.

The Applicants respectfully submit that the rejected claims are not obvious in view of the hypothetical combination of Nevitt and Ashcraft because one skilled in the art would not combine the particle-containing layer in Nevitt with the core layer comprising void-initiating particles in Ashcraft. Nevitt teaches that the purpose of the particles in the particle-containing layer are to roughen the exterior surface of the layer. The particles may be completely encased or embedded within the layer yet still provide a roughened surface or may roughen the surface by being partially exposed and projecting from the layer.

In sharp contrast, Ashcraft teaches that a roughened surface must be avoided. Specifically, Ashcraft states that it is important that the external layers be sufficiently thick so that the outer surfaces do not manifest the irregularities or surface projections of the core material, which contains voids and void-initiating particles. Ashcraft states that if the surface manifests irregularities the “appearance of the satin finish would be materially lessened,” which

would defeat the purpose of Ashcraft's thermoplastic polymer film. (See Ashcraft, column 2, lines 50.)

Thus, one skilled in the art would not be motivated to combine the roughened film of Nevitt with the smooth film in Ashcraft because the combination would result in diminishment of the satin appearance and would defeat the purpose of Ashcraft. Because Nevitt and Ashcraft are skilled in the art and would not combine those references, the Applicants respectfully request reconsideration and withdrawal of the rejection.

There are further problems with the combination of Nevitt and Ashcraft. For example, Ashcraft does not disclose a liquid-crystalline polyester as an incompatible particle. Also, Ashcraft does not teach how to improve cushion properties and thermal expansion. Thus, including a liquid-crystalline polyester to improve cushion properties and thermal expansion are not aspects that one skilled in the art could have conceived based on the Ashcraft disclosure. Therefore, the hypothetical combination of Ashcraft with Nevitt would still result in films that are completely different from those set forth in Claims 7-10. Withdrawal of the rejection of Claims 7-10 is respectfully requested.

The Official Action further alleges that Claims 15-32 are obvious in view of Nevitt because Nevitt allegedly discloses a substantially identical composition that inherently possesses the density of 0.2 to 1.2 kg/m³. The Applicants respectfully submit that the films are not substantially identical and in any event the Applicants do not claim density of the film. The Applicants note that Claims 15-27 have been cancelled, thereby rendering that portion of the rejection moot. Claims 30-32 are also allowable for the reasons set forth above. Withdrawal of the rejection is respectfully requested.

The Official Action further alleges that Claims 28 and 29 are obvious over Nevitt and Ashcraft because Nevitt discloses a method for producing a laminated film comprising a step of co-extruding at least two resin compositions, one of the compositions being thermoplastic, another one being non-ductile, but does not disclose a step of forming cracks in a layer containing the non-ductile resin composition by biaxial stretching.

Ashcraft is relied upon as teaching crack-formation. As discussed above, one skilled in the art would not be motivated to combine Nevitt with Ashcraft because the combination would defeat the purpose of Ashcraft. Accordingly, the Applicants respectfully submit that Claims 28 and 29 are not obvious under 35 U.S.C. § 103, and request reconsideration and withdrawal of the rejection.

The Official Action further alleges that Claims 30 and 32 are obvious over Nevitt and Ashcraft because it would have been obvious to one skilled in the art that the laminate film comprising voids would be insulating and useful as a circuit material. As discussed above, one skilled in the art would not be motivated to combine Nevitt with Ashcraft because the combination would defeat the purpose of Ashcraft. Accordingly, the Applicants respectfully submit that Claims 30 and 32 are not obvious under 35 U.S.C. § 103, and request reconsideration and withdrawal of the rejection.

Claim 31 stands rejected under 35 U.S.C. § 103(a) as obvious over Nevitt in view of Reinhart. The rejection alleges that Nevitt discloses a laminated film that comprises a thermoplastic resin layer and a second layer, which includes a network structure, but does not disclose use of the laminated layer as a release material. The rejection relies upon Reinhart as teaching the use of a laminate as a release material.

As discussed above, Nevitt does not teach a network structure and, thus, fails to teach every element of Claim 1. The disclosure of the use of a laminate as a release material in Reinhart does not cure that deficiency and the combination of Nevitt and Reinhart does not result in the laminated film recited in Claim 31. Accordingly, the Applicants respectfully request reconsideration and withdrawal of the rejection over Nevitt in view of Reinhart.

In light of the foregoing, the Applicants respectfully submit that the entire application is now in condition for allowance, which is respectfully requested.

Respectfully submitted,



T. Daniel Christenbury
Reg. No. 31,750
Attorney for Applicants

TDC/sh
(215) 656-3381